

Patent claims

1. Pouring closure with piercing edge arrangement for combipacks or containers sealed with foil material consisting of a flange for the welding on to a combipack or to the foil material of a container sealed with that and a circular rim projecting upwards thereon as well as a twistable combined lid and pouring nozzle that can be clipped on to this rim, which forms a piercing edge arrangement.
2. Pouring out closure with piercing edge arrangement according to claim 1 *characterised by the fact* that the combined lid (3) and pouring nozzle that can be clipped on the rim (2) forms a lid cap (5), whose rim (6) projecting downwards can be clipped on the circular rim (2) projecting upwards on the flange (1) rotatable on the same, and that the piercing edge arrangement (4) is realised, in which minimum one part (7) of the cap lid (5) can be open from the lid surface around a swinging axis whereby minimum one piercing cutter (9) formed on the lower side of the part (7) behind the swinging axis near the edge of the cap rim (6) , with piercing edge blade (19) and cutting edge projecting downward can be folding up beyond the level of the bottom side of the flange (1) and can be moved in this swung position by rotating the lid cap (5) on the rim (3) along the same.

3. Pouring out closure with piercing edge arrangement according to one of the previous claims *characterised by the fact* that the combined lid (3) and pouring nozzle that can be clipped on the rim (2) forms a lid cap (5), whose rim (6) projecting downwards can be clipped on the circular rim (2) projecting upwards on the flange (1) rotatable on the same, and that the piercing edge arrangement (4) is realised, in which minimum one part (7) of the cap lid (5) can be open from the lid surface around a swinging axis whereby two piercing cutters (9,20) formed on the lower side of the part (7) behind its swinging axis near the edge of the cap rim (6) with piercing edge blades (19,21) can be folding up beyond the level of the bottom side of the flange (1) and can be moved in this swung position by rotating the lid cap (5) on the rim (3) along the same.
4. Pouring out closure with piercing edge arrangement according to claim 3 *characterised by the fact* that the two piercing cutters (9,20) with cutting blades (19,21) formed on the lower side of the part (7) that can be open are so formed on the part (7) that, for part (7) open vertical to the lid upper side, the cutting edge of that cutting blade (19) of the piercing cutter (9), which develops a cutting action at first in the direction to the front side of the closure for a rotation of the lid cap

(5) in the counter clockwise direction, lies further removed from the swinging axis than the cutting edge of the cutting blade (21) directed backwards of the piercing cutter (20) arranged opposite, which develops a cutting action at first in the direction to the rear side of the closure.

5. Pouring out closure with piercing edge arrangement according to one of the previous claims *characterised by the fact* that, behind the part (7) of the cap lid (5) with the piercing edge arrangement (4) that can be open, a second part (8) of the cap lid (5) can be open in contra-rotating swinging direction around a parallel swinging axis (12) displaced from the swinging axis of the first part (7).
6. Pouring out closure with piercing edge arrangement according to one of the claims 1 to 5 *characterised by the fact* that the lid (3) consists of a lid cap and a single-piece lid ring (33) hanging on it via a band 34, on which it can be fixed by means of engaging elements (39,40), in which the lid rear part has a vent hole (35) and a plug (38) is formed on the front lid lower side, which enters into the vent hole airtight during the folding up of the front lid part (7) and that the piercing cutters (9,20) have axle pins (41) on their outer sides, which fit in the axle bearing (42) on the bottom

rim of the lid ring (33) and that the lid ring (33) can be fixed on the projection (2) on the closure lower part.

7. Pouring out closure with piercing edge arrangement according to one of the claims 1 to 5 *characterised by the fact* that the two parts (7,8) of the cap lid (5) lying opposite can be open from the lid surface against each other whereby the cap lid (5) forms a strap (10) along a secant on whose two edges the two parts (7,8) that can be open are formed that can be swung via an internal hinges (11,12), in which each piercing cutter (9,20) formed on the bottom side of the one part (7) near the edge of the cap rim (6) can be swung beyond the level of the bottom side of the flange (1) and can be moved in this swung position by rotating the lid cap (5) on the rim (2) along the same.
8. Pouring out closure with piercing edge arrangement according to one of the previous claims *characterised by the fact* that the combined lid and pouring nozzle (3) that can be clipped on the rim (2) forms a lid cap (5), whose downwards projecting rim (6) can be clipped on to the upwards projecting circular rim (2) on the flange (1) rotatable on the same, in which the circular rim (2) has a bulge (13) along its outer

side running around its circumference and the lid cap (5) has a groove (14) matching to this bulge (13) on the inner side of its downwards projecting rim (6).

9. Pouring out closure with piercing edge arrangement according to one of the previous claims *characterised by the fact* that the combined lid and pouring nozzle (3) that can be clipped on to the rim (2) forms a pouring lip (15) sticking out from it radially on that side from which the part (7) of the cap lid containing the piercing edge arrangement (4) can be open.
10. Pouring out closure with piercing edge arrangement according to one of the previous claims *characterised by the fact* that the combined lid and pouring nozzle (3) that can be clipped on to the rim (2) forms a lid cap (5), whose downwards projecting rim (6) can be clipped on to the upwards projecting circular rim (2) on the flange (1) and rotatable on the same, in which minimum one part (7,8) of the cap lid (5) can be open from the lid surface, and that outer lower rim of this part (7,8) forms a step (16), which fits in a similar step (17) on the upper rim of the upwards projecting rim (2) on the flange (1), and whereby a gripping groove (18) is formed on the front side of the parts (7,8) that can be open, which overlaps the rim (2) on its outer side projecting downwards in the folding up condition.